

**Notice of Allowability**

Application No.

09/863,522

Applicant(s)

CHEN, YUANJIE

Examiner

Art Unit

Duc C Ho

2665

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 10-21-04.
2. ☒ The allowed claim(s) is/are 1-12, 33, 13-32, 34-46. Renumbered 1-46, respectively.
3. ☒ The drawings filed on 23 May 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 2-16-05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## DETAILED ACTION

### EXAMINER 'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Steven R. Gilliam on 02-15-05.

The application has been amended as follows:

Claims 47-48 are canceled.

2. The following is an examiner's statement of reasons for allowance:

Regarding claims 1-12, and 33, the prior arts fail to teach or fairly suggest in a communications configuration wherein a device receives a signal over a communication channel while simultaneously transmitting a training signal, a method of enhancing performance of a receiver that comprises a step of selecting a training subset of less than all signal elements based on those of the signal elements employed in one or more recent data transmissions, in combination with other limitations, as specified in the independent claim 1.

Regarding claims 13-14, the prior arts fail to teach or fairly suggest in a communications configuration wherein a device receives a signal over a communication channel, a method of reducing crosstalk into a second communication channel that comprises a step of selecting a training subset of less than all signal elements based on

those of the signal elements employed in one or more recent data transmissions, in combination with other limitations, as specified in the independent claim 1.

Regarding claims 15-21, the prior arts fail to teach or fairly suggest in a bi-directional communications configuration wherein opposing direction training signals are simultaneously transmitted via a bi-directional communications channel, a method of improving receiver performance comprises a step of substantially limiting, based on prior connection information, a subset of tones transmitted as part of one of the training signals to those of the tones likely to be employed for same direction data transmission, as specified in the independent claim 15.

Regarding claims 22-27, the prior arts fail to teach or fairly suggest a method of operating digital subscriber line transceiver unit, the method comprises a step of selecting a subset of less than all available tones for inclusion in a training signal, the selection based on stored prior connection information, in combination with other limitations, as specified in the independent claim 22.

Regarding claims 28-36, the prior arts fail to teach or fairly suggest in a communications configuration wherein a device receives a signal over a communication channel, a method of reducing crosstalk into a second communication channel that comprises a step of selecting a training subset of less than all signal elements based on those of the signal elements employed in one or more recent data transmissions, in combination with other limitations, as specified in the independent claim 1.

Regarding claims 37-43, the prior arts fail to teach or fairly suggest a digital subscriber line transceiver unit, the unit comprises a training signal generator coupled to the prior connection information store and selective for a subset of less than all available tones for inclusion in a training signal based on prior connection information

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stored therein, in combination with other limitations, as specified in the independent claims 37, and 42.

Regarding claims 44-46, the prior arts fail to teach or fairly suggest a computer program product encoded in at least one computer readable medium that comprises a first functional sequence executable to select a subset of less than all available tones for inclusion in a training signal, the selection based on stored prior connection information, in combination with other limitations, as specified in the independent claim 44.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (571) 272-3147. The examiner can normally be reached on Monday through Friday from 7:00 am to 3:30 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

A handwritten signature in black ink, appearing to read "Duc Ho", with a stylized flourish at the end.

Duc Ho

02-16-05